34. (New) The vaccine of Claim 33, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

35. (New) The method of claim 9, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

36. (New) The method of claim 10, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

37. (New) The method of claim 21, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

38. (New) The method of claim 22, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

REMARKS

Applicants elect the claims of Group I (claims 1-8 and 12-20) and elect the species of B moieties with a D425K mutation, without traverse. Applicants note that the D425K mutant is recited in claims 4 and 19. In the event that a generic claim is allowed, applicants request that claims to the remaining species be considered as provided by 37 CFR § 1.141 and MPEP § 809.02(a). Applicants respectfully request that the additional species be considered in the following order: D425A, D425E, D425N, K397D, K397A, K397C, K397Q, F427A, F427D, F427K. Upon allowance of claims to these additional species, applicants request the Examiner to contact the undersigned regarding the order in which the remaining species are to be considered.

Support for Amendment

~~Claims 1, 4, 12, and 19 were amended and new claims 28-38 were added.~~ Support for the new claims and the amended claims is found throughout the specification, for example, page 4, lines 15-22; page 8, lines 21-22; page 10, lines 16-25; page 10, line 26 through page 11, line 5;

page 17, lines 21-26; page 20, Table 1; and page 22, lines 19-26. No new matter has been added.

A marked-up version indicating the amendments made to the claims, as required by 37 C.F.R. § 1.121(b)(c)(1)(ii), is enclosed. Also enclosed is a petition to extend the period for replying for one month, to and including September 16, 2002. If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

Date: September 16, 2002

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F:\00742\00742.060002 reply to restriction requirement as filed.word

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Certificate of Mailing: Date of Deposit: September 16, 2002
I hereby certify under 37 C.F.R. § 1.8(a) that this correspondence is being deposited with the United States Postal Service as **first class mail** with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	R. John Collier et al.	Art Unit:	7132
Serial No.:	09/848,909	Examiner:	Virginia Allen Portner
Filed:	May 4, 2001	Customer No.:	21559
Title:	COMPOUNDS AND METHODS FOR THE TREATMENT AND PREVENTION OF BACTERIAL INFECTION		

Assistant Commissioner For Patents
Washington, D.C. 20231

Version with Markings to Show Changes

A marked-up version of claims 1, 4, 12, and 19 and new claims 28-38 is presented below.

1. (Amended) A B moiety of a pore-forming binary A-B toxin, wherein said B moiety comprises a mutation that inhibits its pore-forming ability, wherein said mutation is not the deletion of amino acids 302-325 of anthrax protective antigen (SEQ ID NO. 12).

4. (Amended) The B moiety of claim 1, having an amino acid sequence that is at least 80% identical to SEQ ID No.: 21 and that has an alteration selected from the group consisting of:

a) K397A;

b) K397D;

c) K397C;

d) K397Q;

e) D425A;

f) D425N;

g) D425E;

h) D425K;

i) F427A;

j) K397D [K397] + D425K double mutation;

k) K395D + K397D + D425K + D426K quadruple mutation;

l) K397D +D425K + F427A triple mutation;

m) F427A + ΔD2L2 double mutation;

n) K397D + F427A +ΔD2L2 triple mutation;

o) K397D + D425K + F427A +ΔD2L2 quadruple mutation;

p) F427D; and

q) F427K[; and]

[(r) ΔD2L2].

12. (Amended) A mutant B moiety of a pore-forming binary A-B toxin, wherein said mutant B moiety comprises a mutation that inhibits its pore-forming ability, and wherein said mutant B moiety inhibits the pore-forming ability of a naturally-occurring B moiety of said toxin, wherein said mutation is not the deletion of amino acids 302-325 of anthrax protective antigen (SEQ ID NO. 12).

19. (Amended) The mutant B moiety of claim 12, having an amino acid sequence that is at least 80% identical to SEQ ID No.: 21 and that has an alteration selected from the group consisting of:

a) K397D + D425K double mutation;

[b) ΔD2L2;]

b[c]) K395D + K397D + D425K + D426K quadruple mutation;

c [d]) D425K;

d [e]) F427A;

e [f]) K397D +D425K + F427A triple mutation;

f [g]) F427A + ΔD2L2 double mutation;

g [h]) K397D + F427A +ΔD2L2 triple mutation;

h [i]) K397D + D425K + F427A +ΔD2L2 quadruple mutation;

i [h]) F427D; and

j [i]) F427K.

Add the following new claims 28-38.

28. (New) The B moiety of claim 2, having an amino acid sequence that is at least 80% identical to SEQ ID No.: 21.

29. (New) The mutant B moiety of claim 19, comprising a deletion of amino acids 302-325 of the D2L2 loop.

30. (New) The mutant B moiety of claim 1, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

31. (New) The mutant B moiety of Claim 11, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

32. (New) A vaccine composition comprising a mutant B moiety of a pore-forming binary A-B toxin or a fragment thereof in a pharmaceutically acceptable carrier, wherein said mutant B moiety comprises a mutation that inhibits its pore-forming ability, and wherein said mutant B moiety inhibits the pore-forming ability of a naturally-occurring B moiety of said toxin.

33. (New) The vaccine of claim 6, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

34. (New) The vaccine of Claim 32, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

35. (New) The method of claim 9, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

36. (New) The method of claim 10, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

37. (New) The method of claim 21, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.

38. (New) The method of claim 22, wherein said mutation is in the PA63 domain of said B moiety if said B moiety is anthrax protective antigen.